

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2, RDT&E Budget Item Justification						DATE: February 2002					
APPROPRIATION/BUDGET ACTIVITY					R-1 ITEM NOMENCLATURE						
RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY / BA-7					0305204N Tactical Unmanned Aerial Vehicles						
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
Total PE Cost			121.486	72.692	206.359	141.590	144.403	90.505	50.977	Continuing	Continuing
A2478 Tactical Control System	30.090		40.566	17.641	9.067	9.202	9.360	9.528	9.712	Continuing	Continuing
A2479 Applied Technology	10.111		14.676								24.787
A2768 VTUAV	34.750		66.244	47.795	43.602						192.391
A2910 Joint Technology Center/Sys Integration Lab	***			2.300	1.690	1.691	1.688	1.685	1.682	Continuing	Continuing
A3061 BAMS UAV					152.000	130.697	133.355	79.292	39.583	Continuing	Continuing
A9113 VTOL UAV MPR Study	****			4.956							4.956
Non Add:											
FY 2003 Cost of War: BAMS UAV (Classified)					28.300	14.300	26.700	40.000	48.000		
Quantity of RDT&E Articles	2		3		2						7
<p>* The FY 2001 budget for PU A2478 reflects a \$3.000M Congressional add for the Joint Forces Command Operational Test Bed for TCS which was reduced by \$.027 million for Congressional Reductions and executed under A2669. The FY02 budget reflects a \$2M congressional add for JOTBS support which was reduced by \$0.02M for undistributed congressional reductions.</p> <p>** The FY 2001 budget for PU A2479 reflects a \$7.000M Congressional add for the MSAG Array Technology for Applied Technology which was reduced by \$.064 million for Congressional Reductions and executed under A2670.</p> <p>***Joint Technology Center/System Integration Lab, PU A2910, was executed under A2478, Tactical Control System in prior years.</p> <p>**** The FY 2002 budget for PU A9113 reflects a \$5M congressional add for conducting a VTOL UAV MPR study, reduced by \$0.044M for an undistributed congressional reduction.</p> <p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: This program provides for the development of Tactical Unmanned Aerial Vehicle (TUAV) systems for DoD that provide warfighters with a dedicated capability for day/night aerial Reconnaissance, Surveillance and Target Acquisition (RSTA); intelligence, communications/data dissemination; electronic warfare; weather data collection to support combat operations; minefield detection; and nuclear, biological and chemical reconnaissance in limited adverse weather. Specifically:</p> <p>TCS: Efforts are underway to develop a Tactical Control System (TCS) to provide interoperability for command and control of the present and future Tactical and Medium Altitude Endurance (MAE) UAVs and their payloads utilized by the military services for RSTA and combat assessment. TCS has the requirement to provide connectivity to service designated C4I systems and the objective requirement to interface with Global Hawk High Altitude Endurance (HAE) UAV system. TCS is being developed in concert with the development of UAV concept of operations so as to ensure system functionality satisfies operational requirements. TCS development and testing is being accomplished via a Government/Industry team. In FY2000 Raytheon assumed total system performance responsibility for all software block developments.</p> <p>Applied Technology (AT): AT supports the advancement of systems on the Naval UAV Roadmap/Long Range Plan, including P3I of currently fielded or EMD programs, requirements definition efforts, support to Concept of Operations (CONOPS) development efforts, and technology transition from science and technology efforts, leading to the next generation of Naval UAVs. Current AT efforts include the UAV Advanced Technology Review Board(ATRB), the Multi-Role Endurance (MRE) UAV requirements definition effort, small UAVs and miniaturized payloads and UAVs in Network Centric Warfare. AT also supports cooperative R&D arrangements with major allies and NATO, providing day-to-day management and policy oversight regarding UAV export control and foreign military sales case management.</p> <p>Non-Add: Cost of War-\$28.3M in FY 2003 for classified effort associated with BAMS UAV.</p>											

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APPROPRIATION/BUDGET ACTIVITY RESEARCH DEVELOPMENT TEST & EVALUATION, NAVY BA-7	R-1 ITEM NOMENCLATURE 0305204N Tactical Unmanned Aerial Vehicles	
<p>VTUAV: The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) will provide users real-time and near-real-time data required to support intelligence surveillance and reconnaissance (ISR) efforts without the use of manned aircraft or reliance on limited joint theater or national assets. Missions supported under ISR and accomplished by a VTUAV include over-the-horizon classification and targeting, mine countermeasures, battle management, chemical/biological agent reconnaissance and signals intelligence. The VTUAV would be an organic asset of the ship to which it is attached or deployed. The forte of the VTUAV is that it launches and recovers vertically and can operate from any/all air capable ships as well as confined land based areas. Other capabilities of the VTUAV include: autonomous waypoint navigation; automatic launch and recovery of the vehicle both ashore and afloat; incorporation of a heavy fuel engine; and the ability to incorporate modular mission payloads. The data from the VTUAV System would be provided to the user through standard DoD Command, Control, Communications, Computers and Intelligence(C4I) systems, architectures and protocols.</p> <p>JTC/SIL: The Joint Technology Center/System Integration Laboratory provides a test- bed for UAV technology assessment, insertion, demonstration, and transfer, as well as simulation and exercise support.</p> <p>BAMS UAV PROGRAM: SECNAV directed development of a Navy mission capable Global Hawk system as soon as practicable. This program will initiate development of a marinized Global Hawk in FY03.</p> <p>VTOL UAV MPR Study: Congressional plus up for development of a prototype Maritime Patrol and Reconnaissance (MPR) mission with advanced surveillance sensor equipment on a Global Hawk for experimentation and for examining concepts of operation for use in conjunction with other MPR assets.</p> <p>(U) JUSTIFICATION FOR BUDGET ACTIVITY: This program is funded under operational systems development because it encompasses engineering and manufacturing development for upgrade of existing operational systems.</p>		

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

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EXHIBIT R-2a, RDT&E Project Justification								DATE:				
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APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME						
RDT&E, N / BA-7		0305204N Tactical Unmanned Aerial Vehicles				A2478 Tactical Control System						
COST (\$ in Millions)		Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
A2478 Tactical Control System				*								
				40.566	17.641	9.067	9.202	9.360	9.528	9.712	Continuing	Continuing
RDT&E Articles Qty (EDU)		2										2
* FY 2001 budget reflects a \$3.000M Congressional add for the Joint Forces Command Operational Testbed which was reduced by \$.027 million for Congressional Reductions and executed under A2669. FY02 includes a congressional plus up of \$2.0M for JOTBS upgrades, and support of Navy Flight Activity. FY 02 \$0.020 decrease for an undistributed congressional reduction.												
(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:												
The Tactical Control System (TCS) provides interoperability and commonality for mission planning, command, control, communications, and data dissemination for the current and future family of Tactical and Medium Altitude Endurance (MAE) Unmanned Aerial Vehicles (UAVs). It provides a full range of scaleable UAV capabilities from passive receipt of air vehicle and payload data to full air vehicle command and control. TCS functionality supports the joint warfighter with the software to receive, process, and disseminate the air vehicle and payload data from two or more different UAV types for reconnaissance, surveillance, and combat assessment. TCS also has an objective requirement to receive and disseminate payload information from the Global Hawk High Altitude endurance UAV. TCS supports seamless integration into the existing Command, Control, Communications Computers and Intelligence (C4I) architecture and interfaces with other manned and unmanned reconnaissance platforms and intelligence systems thereby providing information superiority through cross cueing. TCS maximizes the use of Commercial and Government off-the-shelf (COTS and GOTS) hardware and software wherever possible. TCS software will be interoperable and operate on existing standard service computer platforms and be compliant with the Assistant Secretary of Defense for Command, Control, Communications and Intelligence (ASD(C3I)) Joint Technical Architecture, Distributed Common Ground System (DCGS), Common Imagery Ground/Surface Station (CIGSS), and the United States Imagery Standards, and Defense Information Infrastructure/Common Operating Environment (DII/COE). The Systems Integrator, Raytheon, supports the assessment of system integration readiness prior to actual flight-testing. The NATO Naval Armaments Group, Project 35, has undertaken studies/technical demonstrations to define a common interoperable NATO UAV ground control system architecture. Canada and the United Kingdom have established TCS FMS cases, have procured TCS software/hardware, and are participating in TCS and NATO demonstrations.												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-2a, RDTE Project Justification
(Exhibit R-2a, page 3 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2478 Tactical Control System
<p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>2. FY 2001 ACCOMPLISHMENTS:</p> <ul style="list-style-type: none"> - (U) (\$ 1.281) Completed software development and Developmental testing (DT) of TCS Block 0 Engineering Development Unit (EDU #2). - (U) (\$30.268) Continued development of TCS Block1 (TUAV), conducted DT through Laboratory Sytem IntegrationTest (LSIT) with EDU #3, and continued development of TCS Block 2 (VTUAV), MAE back-fit ECP. Demonstrated Level V Command and control of a Shadow 600. Conducted successful test of ASAS, AFATDS, and JSTARS C4I systems.* - (U) (\$ 0.500) Continued General Test Support for Multiple Link Antenna System/Multi-function Self-Ailigned Gate Array Technology (MLAS/MSAG). - (U) (\$ 3.244) Continued development of training systems for TCS Block 2. - (U) (\$ 2.300) Supported Joint Technology Center/Systems Integration Lab (JTC/SIL) Multiple UAV Simulation Environment (MUSE) efforts. - (U) (\$ 2.973) Supported Joint Operational Test Bed System testing & experimentation support, system upgrades and risk reduction operations. <p>3. FY 2002 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$ 14.561) Complete development of TCS Block 1 (TUAV) through Laboratory Systems Integration Testing (LSIT), and continue development of TCS Block 2 (VTUAV) DT through OT testing. - (U) (\$ 0.500) Continue General Test Support for Multiple Link Antenna System/Multi-function Self-Aligned Gate Array Technology (MLAS/MSAG). - (U) (\$ 0.600) C4I Testing/Certification Assessments. - (U) (\$ 1.980) JOTBS-Complete system upgrades and participate in Millenium Challenge exercise. <p>4. FY 2003 PLANS:</p> <ul style="list-style-type: none"> - (U) (\$ 8.567) Complete development of TCS Block 2 (VTUAV) DT through OT testing. - (U) (\$ 0.500) Continue General Test Support for Multiple Link Antenna System/Multi-function Self-Aligned Gate Array Technology (MLAS/MSAG). <p style="margin-left: 40px;">* Note. This line does not represent a programmatic change. Block 1and Block 2 are being developed concurrently by Raytheon under a single contract.</p>		

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 4 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2478 Tactical Control System																
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY2001</u></th> <th style="text-align: center;"><u>FY2002</u></th> <th style="text-align: center;"><u>FY2003</u></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td style="text-align: center;">40.576</td> <td style="text-align: center;">15.801</td> <td></td> </tr> <tr> <td>(U) Adjustments from the FY 2002 President's Budget:</td> <td style="text-align: center;">-0.010</td> <td style="text-align: center;">1.840</td> <td></td> </tr> <tr> <td>(U) FY 2003 President's Budget Submit:</td> <td style="text-align: center;">40.566</td> <td style="text-align: center;">17.641</td> <td style="text-align: center;">9.067</td> </tr> </tbody> </table> <p>(U) C. CHANGE SUMMARY EXPLANATION:</p> <p style="margin-left: 40px;">(U) Funding: FY01 \$0.010M decrease for for an undistributed congressional reductions. FY02 includes a congressional plus up of \$2M for JOTBS upgrades and support of Navy flight activity, and a \$0.160M decrease for an undistributed congressional reductions.</p> <p style="margin-left: 40px;">(U) Schedule: The TCS schedule has been updated to reflect program realignment with the Army's TUAV and the Navy/Marine Corps VTUAV programs. In addition, program, engineering, test & evaluation, and contract milestone terminologies have been updated to reflect standard nomenclature and a more accurate description of terminology used in the current contract.</p> <p style="margin-left: 40px;">(U) Technical: N/A</p> <p style="margin-left: 40px;">(U) C. OTHER PROGRAM FUNDING SUMMARY: N/A</p>				<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:	40.576	15.801		(U) Adjustments from the FY 2002 President's Budget:	-0.010	1.840		(U) FY 2003 President's Budget Submit:	40.566	17.641	9.067
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
(U) FY 2002 President's Budget:	40.576	15.801																
(U) Adjustments from the FY 2002 President's Budget:	-0.010	1.840																
(U) FY 2003 President's Budget Submit:	40.566	17.641	9.067															

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

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<p>(U) D. ACQUISITION STRATEGY: The TCS Engineering Manufacturing Development (EMD) began in 2Q FY00. In 2Q FY01 EDU #2 was delivered to the Navy for testing. EDU #2 was shipped to Ft. Huachuca, AZ in the 4Q FY01 for United States Joint Forces Command (USJFCOM) use in Joint UAV CONOPS development. In 4Q FY01, TCS began hardware in the loop testing at AAI.</p> <p>E. SCHEDULE PROFILE:</p> <table><thead><tr><th></th><th><u>FY 2001</u> 1 2 3 4</th><th><u>FY 2002</u> 1 2 3 4</th><th><u>FY 2003</u></th><th><u>TO COMPLETE</u></th></tr></thead><tbody><tr><td>(U) Engineering Milestones</td><td></td><td></td><td></td><td></td></tr><tr><td> Engineering Design Unit (EDU) Deliveries</td><td>Initiate 2Q/01</td><td>Complete 1Q/02</td><td></td><td></td></tr><tr><td> FDR</td><td></td><td>Complete 3Q/02</td><td></td><td></td></tr></tbody></table>				<u>FY 2001</u> 1 2 3 4	<u>FY 2002</u> 1 2 3 4	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Engineering Milestones					Engineering Design Unit (EDU) Deliveries	Initiate 2Q/01	Complete 1Q/02			FDR		Complete 3Q/02		
	<u>FY 2001</u> 1 2 3 4	<u>FY 2002</u> 1 2 3 4	<u>FY 2003</u>	<u>TO COMPLETE</u>																		
(U) Engineering Milestones																						
Engineering Design Unit (EDU) Deliveries	Initiate 2Q/01	Complete 1Q/02																				
FDR		Complete 3Q/02																				

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

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RDT&E, N / BA-7					0305204N Tactical Unmanned Aerial Vehicles					A2478 Tactical Control System									
(U) E. SCHEDULE PROFILE: Continuation.																			
					<u>FY 2001</u>				<u>FY 2002</u>				<u>FY 2003</u>				<u>TO COMPLETE</u>		
					1 2 3 4				1 2 3 4				1 2 3 4						
(U) T&E Milestones																			
TCS Block 0 DT					Initiate 1Q/01 Complete 2Q/01														
TCS Block 1 DT through LSIT (TUAV DT)					Initiate 4Q/01 Complete 1Q/02														
TCS Block 2 DT through OT					Initiate 1Q/02 Complete 4Q/03														
TCS Joint DT					To Complete														
C4I Testing/Certification Assessment					Initiate 3Q/01 Complete 3Q/02														

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-2a, RDTEEN Project Justification
(Exhibit R-2a, page 7 of 35)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2478 Tactical Control System					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Tactical Control System Development	C/CPAF	Raytheon, Falls Church, VA	17.406	20.875	02/01	12.567	11/01	6.860	11/02		57.708	57.708
Joint Operational TestBed System	WX	USJFCOM, Norfolk, VA		2.973	05/01	1.180	05/02				2.973	
TUAV System	MIPR	TUAV, Redstone, AL		0.808	11/00						0.808	
JOTBS Syst Upg/Millenium challenge	C/CFF	General Atomics				0.200	03/02					
JOTBS Syst Upg/Millenium challenge	C/CFF	Raytheon, Falls Church, VA				0.600	03/02					
Award Fees	C/CPAF	Raytheon, Falls Church, VA		1.461	09/01	0.880	06/02	0.385	12/02		2.726	
Subtotal Product Development			17.406	26.117		15.427		7.245			66.195	
Remarks: Raytheon contract includes: Primary Software Development, Hardware Engineering, Systems Engineering, and Systems Integration Millenium challenge system upgrades and support will be done through BOAs with General Atomics and Raytheon and are part of Congressional Plus-Up												
Systems Engineering	WX	NSWC-Dahlgren, Va	2.740	1.704	11/00	0.190	12/01	0.190	12/02	Continuing	Continuing	
Systems Engineering	WX	NAWCAD, Pax River, MD	1.121	1.200	12/00							
*MUSE	MIPR	JTC/SIL, Redstone, AL	1.500	2.300	11/00						3.800	
Logistics Support	WX	Various	1.100	0.360	12/00							
Training	WX	NSWC-IH, Indian Head, MD	2.340	3.244	12/00							
Technical Engineering Services	WX	NAWCAD, Pax River MD/Other		1.521	12/00	0.734	12/01	0.896	12/02	Continuing	Continuing	
Human Computer Interface Develop	WX	NAWCAD, Pax River, MD	0.300	0.200	10/00							
Subtotal Support			9.101	10.529		0.924		1.086		Continuing	Continuing	
Remarks: * In FY 2002 MUSE will be executed under project unit A2910.												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

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Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2478 Tactical Control System						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	MIPR	JITC, FT Huachuca, AZ		0.390	10/00	0.600	12/01					
Developmental Test & Evaluation	WX	CIRPAS, Monterey, CA	1.070	0.981	02/01						2.051	
Operational Test & Evaluation	WX, MIPR	Various	1.480								1.480	
General Test Support	WX	NSWC-Dahlgren, VA		0.500	03/01	0.500	12/01	0.500	12/02	Continuing	Continuing	
Subtotal T&E			2.550	1.871		1.100		0.500		Continuing	Continuing	
Remarks:												
Contractor Engineering Support	C/FFP	Summit, Waldorf, MD	0.100								0.100	0.100
Government Engineering Support	WX	NAWCAD, Pax River, MD	0.300								0.300	
Program Management Support	WX	Various	0.313	1.017	04/01	0.120	12/01	0.166	12/02	Continuing	Continuing	
Travel/Misc.	WX	Various	0.320	1.032	10/00	0.070	10/01	0.070	12/02	Continuing	Continuing	
							04/02					
Subtotal Management			1.033	2.049		0.190		0.236		Continuing	Continuing	
Remarks:												
Total Cost			30.090	40.566		17.641		9.067		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RDTE Project Cost Analysis
(Exhibit R-3, page 9 of 35)

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles					PROJECT NUMBER AND NAME A2479 Applied Technology (AT)					
COST (\$ in Millions)	Prior Years Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
			*								
A2479 Applied Technology (AT)	10.111		14.676								24.787
RDT&E Articles Qty											

*The FY01 budget reflects a \$7.000 M Congressional add for the Multi-function Self-Aligned Gate (MSAG) Array Technology for the Applied Technology (A2479) which was reduced by \$.064 million and executed under A2670.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

Applied Technology (AT) supports the advancement of systems on the Naval UAV Roadmap/Long Range Plan, including P3I of currently fielded or EMD programs, requirements definition efforts, support to CONOPS development efforts, and technology transition from science and technology efforts, leading to the next generation of Naval UAVs. Current AT efforts include the UAV Advanced Technology Review Board (ATRB), the Multi-Role Endurance (MRE) UAV requirements definition effort, small UAVs and miniaturized payloads, and UAVs in Network Centric Warfare. AT is leading exploration of MRE concepts to better define system requirements. These defined requirements will then enable technology pull to draw industry into this growth area. Similar efforts are underway to develop mission definition and analysis for the Small and Micro UAVs. AT's technology focus also encourages approaches that are expected to address needs of Unmanned Combat Air Vehicle Systems. AT is the acquisition lead for the Naval UAV Advanced Technology Review Board (ATRB). The ATRB effort supports development of requirements definition and technology transition into existing and future Naval UAV programs. AT is also the focal point for working international initiatives to improve UAV integration into NATO Task Force Operations.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2001 ACCOMPLISHMENTS:

- (U) (\$2.662) Completed requirements definition, integration, demonstration, and test of small UAVs for USMC Interim Small Unit Remote Scouting System (I-SURSS) effort.
- (U) (\$2.292) Completed Phase II, System Design and Definition and Phase III, Systems Analysis and Risk Assessment of the MRE contracts.
- (U) (\$1.920) Completed demonstration of operational utility of key technologies endorsed by the UAV ATRB, including Touch Down Predictability (TDP) Landing Aid, and Plug and Play Modular Mission Payload (MMP) contracts.
- (U) (\$0.277) Supported the international initiatives to improve UAV integration into NATO Task Force Operations and common international support efforts.
- (U) (\$0.598) Directed by OSD C3I to fund UAV communications/payload integration effort, which will result in the ability to use US Government-owned communications assets to employ Predator worldwide.
- (U) (\$6.927) Continued to execute design, engineer and manufacture components using MSAG Technology for MLAS Demonstration.

2. FY 2002 PLANS: N/A

3. FY 2003 PLANS: N/A

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	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
(U) FY 2002 President's Budget:	14.749																	
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(U) FY 2003 President's Budget Submit:	14.676																	

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APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME																																																			
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A2479 Applied Technology (AT)																																																			
<p>(U) D. ACQUISITION STRATEGY: The key objectives of this program element are: Technology transition and insertion of emerging technologies to Naval UAV programs to address warfighter needs; Requirements definition and roadmapping in support of the Naval UAV Roadmap/Long Range Plan, including CONOPS development efforts and feedback into the development and acquisition process; Development of Naval UAV Network Centric Warfare Concepts; International cooperation to avoid unnecessary and costly duplication and enhance interoperability; And focusing basic research on future needs through the ATRB process. AT supports the ATRB, the MRE requirements definition effort, small UAVs and miniaturized payloads, and UAVs in Network Centric Warfare, including P3I of currently fielded or EMD programs, requirements definition efforts, and technology transition from science and technology efforts, leading to the next generation of Naval UAVs. Participates in international cooperative agreements to share common interest developments.</p> <p>(U) E. SCHEDULE PROFILE:</p> <table border="0"> <thead> <tr> <th></th> <th><u>FY 2001</u></th> <th><u>FY2002</u></th> <th><u>FY2003</u></th> <th><u>To Complete</u></th> </tr> <tr> <th></th> <th>1 2 3 4</th> <th></th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>T&E Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Small UAV Rqmts Def and CONOPS Dev/Tests (I-SURSS)</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> <tr> <td>Ship Based UCARS TDP Landing Aid Dev/Tests</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> <tr> <td>MMP Plug and Play Dev/Tests</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> <tr> <td>See and Avoid Validation efforts</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> <tr> <td>Contracts Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>New technology demos</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> <tr> <td>MRE Risk Assessment</td> <td></td> <td>Completed 3Q/01</td> <td></td> <td></td> </tr> </tbody> </table>					<u>FY 2001</u>	<u>FY2002</u>	<u>FY2003</u>	<u>To Complete</u>		1 2 3 4				T&E Milestones					Small UAV Rqmts Def and CONOPS Dev/Tests (I-SURSS)		Completed 3Q/01			Ship Based UCARS TDP Landing Aid Dev/Tests		Completed 3Q/01			MMP Plug and Play Dev/Tests		Completed 3Q/01			See and Avoid Validation efforts		Completed 3Q/01			Contracts Milestones					New technology demos		Completed 3Q/01			MRE Risk Assessment		Completed 3Q/01		
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R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-2a, RD TEN Project Justification
(Exhibit R-2a, page 12 of 35)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA7			0305204N Tactical Unmanned Aerial Vehicles			A2479 Applied Technology (AT)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Product Development	Sect 845	Boeing, Long Beach, CA	0.781	0.347	10/00						1.128	1.128
	Sect 845	Lockheed, Ft. Worth, TX	0.660	0.215	10/00						0.875	0.875
	Sect 845	GDIS, Bloomington, MN	0.446	0.050	10/00						0.496	0.496
	Sect 845	Northrop, Pico Rivera, CA	0.700	0.290	10/00						0.990	0.990
	C/FFP	Aeroteam, Petach Israel	0.220								0.220	0.220
	Sect 845	ITT Gilfillan, Nuys, CA	2.089	6.062	04/01						8.151	8.151
	Sect 845	Battlespace, Arlington, VA	0.435	0.850	04/01						1.285	1.285
	C/FFP	Sierra Nevada, Sparks, NV	0.250								0.250	0.250
	WX	NSWC Indian Head, MD	0.234	0.369	01/01						0.603	
	PD	NAVSEA, Washington DC	0.370								0.370	
	MIPR	Joint Spectrum Center, MD		0.300	01/01						0.300	
	WX	NAWCAD, Pax River, MD		0.832	04/01						0.832	
	MP	Wright Patterson AFB, OH		0.598	06/01						0.598	
Subtotal Product Development			6.185	9.913							16.098	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RDTEN Project Cost Analysis
(Exhibit R-3, page 13 of 35)

UNCLASSIFIED

February 2002

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2479 Applied Technology (AT)						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Demonstration/Exercises	WX	NAWCAD, Pax Riv	0.950	0.835	11/00						1.785	
Demonstration/Exercises	WX	NAWCWD, China Lake, CA		0.272	11/00						0.272	
Demonstration/Exercises	WX	NSWC Crane, IN		0.165	12/00						0.165	
Demonstration/Exercises	MP	Warner Robins AFB,		0.038	05/01						0.038	
Subtotal T&E			0.950	1.310							2.260	
Remarks:												
Program Management Support	WX	NAWCAD, Pax Riv, Md	0.841	1.241	03/01						2.082	
Travel	WX	NAWCAD, Pax Riv, Md	0.100	0.060	10/00						0.160	
Subtotal Management			0.941	1.301							2.242	
Remarks:												
Total Cost			10.111	14.676							24.787	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RDTEEN Project Cost Analysis
(Exhibit R-3, page 15 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:				
								February 2002				
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME				PROJECT NUMBER AND NAME						
RDT&E, N / BA-7		0305204N Tactical Unmanned Aerial Vehicles				A2768 Vertical Take-off Landing UAV						
COST (\$ in Millions)		Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
A2768 Vertical Take-off Landing UAV		34.750		66.244	47.795	43.602						192.391
RDT&E Articles Qty		2		3								5
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION: The Vertical Takeoff and Landing Tactical Unmanned Aerial Vehicle (VTUAV) will provide users real-time and near-real-time data required to support intelligence surveillance and reconnaissance (ISR) efforts without the use of manned aircraft or reliance on limited joint theater or national assets. Missions supported under ISR and accomplished by a VTUAV include over-the-horizon classification and targeting, mine countermeasures, battle management, chemical/biological agent reconnaissance and signals intelligence. The VTUAV would be an organic asset of the ship to which it is attached or deployed. The forte of the VTUAV is that it launches and recovers vertically and it can operate from any/all air capable ships as well as confined land based areas. The quantities above represent the air vehicle and payload hardware sets procured in EMD and LRIP 1.</p> <p>(U) PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2001 ACCOMPLISHMENTS:</p> <p>(U) (\$54.067) Continued contractor EMD system design, fabrication and component testing. Procured initial LRIP.</p> <p>(U) (\$ 5.630) Continued testing & engineering, logistics and integration support</p> <p>(U) (\$ 2.453) Completed operational assessment and initiated developmental testing in the 4th Qtr</p> <p>(U) (\$ 4.094) Funded contractor engineering management, program technical management and management support</p> <p>2. FY 2002 PLANS:</p> <p>(U) (\$34.004) Continue contractor EMD design, fabrication and testing</p> <p>(U) (\$ 7.616) Continue test & engineering, logistics and integration support</p> <p>(U) (\$ 2.727) Complete developmental testing and initiate operational test and evaluation</p> <p>(U) (\$ 3.448) Continue contractor engineering management, program technical management and management support</p> <p>3. FY 2003 PLANS:</p> <p>(U) (\$30.265) Complete contractor EMD design, fabrication and testing</p> <p>(U) (\$ 7.060) Complete test & engineering, logistics and integration support</p> <p>(U) (\$ 4.338) Complete developmental testing and initiate operational test and evaluation</p> <p>(U) (\$ 1.939) Complete contractor engineering management, program technical management and management support</p>												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV																
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table><thead><tr><th></th><th><u>FY2001</u></th><th><u>FY2002</u></th><th><u>FY2003</u></th></tr></thead><tbody><tr><td>(U) FY 2002 President's Budget:</td><td>66.428</td><td>48.248</td><td></td></tr><tr><td>(U) Adjustments from the FY 2002 President's Budget:</td><td>-0.184</td><td>-0.453</td><td></td></tr><tr><td>(U) FY 2003 President's Budget Submit:</td><td>66.244</td><td>47.795</td><td>43.602</td></tr></tbody></table> <p>CHANGE SUMMARY EXPLANATION:</p> <p>(U) Funding: FY 01 \$0.184M decrease for reprioritization of requirements within the Navy. FY02 \$0.444M decrease for an undistributed congressional reduction and a \$.009M decrease for a congressional reduction to Federally Funded Research and Development centers.</p> <p>(U) Schedule: LRIP 1 was awarded in 3rd Qtr FY 2001. IDR and FDR were previously submitted as PDR and CDR, respectively. These are the same reviews but the titles have been changed so that contract and program terminology agrees. FDR was completed in the 2Q of FY01. The operational assessment was completed in 2Q FY01.</p> <p>(U) Technical: Not Applicable</p>				<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:	66.428	48.248		(U) Adjustments from the FY 2002 President's Budget:	-0.184	-0.453		(U) FY 2003 President's Budget Submit:	66.244	47.795	43.602
	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
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R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV

(U) D. ACQUISITION STRATEGY: VTUAV program had a combined Milestone I/Milestone II decision in 2Q FY 2000. Development, fabrication and developmental test of the VTUAV system began in 2Q FY 2000 and will continue through FY 2001/2002. The low rate initial production (LRIP 1) was awarded in 3Q FY 2001 with operational testing being conducted in FY 2003. The LRIP system will be available for Fleet Use in 1Q FY 2004. Initial planning has a VTUAV system defined as: Air Vehicles (A/Vs), Ground Control Stations (GCSs), modular mission payloads, remote data terminals, and spares. Connectivity into the DOD C4I architecture would be provided by the GCS, which is to be TCS compatible. Although not currently designated as a joint program, the VTUAV program can accommodate Joint Services (Army, Navy and Marine Corps) as well as U.S. Coast Guard requirements.

(U) E. SCHEDULE PROFILE:

	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>To Complete</u>
(U) Program Milestones				
Program Initiation, MS II	2Q/01			
EMD	2Q/01			
Fleet Use				1Q/04
(U) Engineering Milestones				
IDR *	4Q/00			
FDR *	2Q/01			
(U) T&E Milestones				
Operational Assessment	2Q/01			
Developmental Testing		2Q/02-3Q/03		
Operational Testing			3Q/03-1Q/04	
(U) Contract Milestones				
LRIP 1		Awarded 3Q/01		

* IDR and FDR were previously submitted as PDR and CDR, respectively, these are the same reviews but the titles have been changed so that contract and program terminology agrees. In addition, the term Operational Assessment, which is the correct effort, replaces the Informal OPTEVFOR Eval.

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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Design/Hardware Development	C/CPIFAF	NGC-Ryan, San Diego, CA	27.081	53.598	04/01	30.989	02/02	28.645	11/02		140.313	140.313
Award Fees	C/CPIFAF	NGC-Ryan, San Diego,CA	0.972	0.469	12/00	3.015	04/02	1.620	11/02		6.076	
Subtotal Product Development			28.053	54.067		34.004		30.265			146.389	
Remarks:												
Test & Engineering Support	WX	NAWC-AD, Pax River, MD	2.533	2.260	11/00	2.595	11/01	3.678	11/02		11.066	
Logistics -Training Development	WX	NSWC, Indian Head, MD	0.395	0.615	11/00	1.413	11/01	2.000	11/02		4.423	
Logistics - Technical Data	WX	NSWC, Crane, IN	0.300	0.300	11/00	0.300	11/01	0.390	11/02		1.290	
Logistics Technical Support	WX	NAWC-WD, Lakehurst, NJ	0.214	0.560	11/00	0.605	11/01	0.252	11/02		1.631	
Logistics Technical Support	WX	NAWC-AD, Pax River, MD	0.280	0.945	11/00	0.787	11/01	0.740	11/02		2.752	
Ship Integration Support	PD	NAVSEA, Arlington, VA	0.600	0.950	12/00	1.916	11/01				3.466	
Ship Integration Support	WX	NSWC, Indian Head, MD	0.153								0.153	
Subtotal Support			4.475	5.630		7.616		7.060			24.781	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RD TEN Project Cost Analysis
(Exhibit R-3, page 19 of 35)

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDTE&E, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2768 Vertical Take-off Landing UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Test & Evaluation	WR	NAWC-AD, Pax River, MD	0.306	1.608	12/00	1.198	12/01	2.566	11/02		5.678	
Operational Test & Evaluation	MIPR	VARIOUS	0.097	0.455	03/01	1.139	03/02	1.652	11/02		3.343	
Range Testing	WX	China Lake, CA		0.390	10/00	0.390	11/01	0.120	11/02		0.900	
Subtotal T&E			0.403	2.453		2.727		4.338			9.921	
Remarks: Operational Test & Evaluation performing activities include OPTEVFOR and MCOTEA.												
Contractor Engineering Management	C/FFP	H.J. Ford, Lexington Park, MD	1.297	1.400	11/00	1.300	11/01	0.900	11/02		4.897	4.897
Program Technical Management	WX	NAWC-AD, Pax River, MD		1.050	11/00	1.120	11/01	0.510	11/02		2.680	
Program Management	MIPR	CECOM/MITRE	0.390	0.205	11/00	0.175	11/01	0.076	11/02		0.846	
Travel	WX	NAWC-AD, Pax River, MD	0.132	0.105	11/00	0.105	11/01	0.060	11/02		0.402	
Miscellaneous	Various	Various		1.334	11/00	0.748	11/01	0.393	11/02		2.475	
Subtotal Management			1.819	4.094		3.448		1.939			11.300	
Remarks:												
Total Cost			34.750	66.244		47.795		43.602			192.391	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RDTE Project Cost Analysis
(Exhibit R-3, page 20 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
A2910 Joint Technology Center/Systems Integration Lab				2.300	1.690	1.691	1.688	1.685	1.682	Continuing	Continuing
RDT&E Articles Qty (EDU)											

* These efforts were previously executed under PU A2478, Tactical Control System.

(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:

The JTC/SIL is the center of technical excellence for the DoD family of UAVs including tactical, medium altitude, high altitude endurance, and future UAVs. This joint facility provides a cost-effective test-bed for UAV technology assessment, insertion, demonstration, and transfer, as well as simulation and exercise support.

A primary product being developed by the JTC/SIL is the Multiple Unified Simulation Environment (MUSE) which is a system that provides a real-time, interoperable hardware, and operator-in-the-loop simulation environment of multiple intelligence systems that is integrated with larger force on force simulations. It creates a realistic operational environment which supports: an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle costs and schedule impacts; a mechanism for the assessment of military utility; architecture, CONOPS, and TTP development and refinement; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service specific warfighting exercises; and C4I Optimization. Canada and the United Kingdom have established TCS FMS cases have procured MUSE software/hardware.

(U) PROGRAM ACCOMPLISHMENTS AND PLANS:

1. FY 2002 PLAN:

- (U) (\$0.367) Laboratory Sustainment
- (U) (\$1.033) MUSE Development
- (U) (\$0.900) Maintenance, Licenses, and Equipment Purchases

2. FY 2003 PLAN:

- (U) (\$0.367) Laboratory Sustainment
- (U) (\$0.823) MUSE Development
- (U) (\$0.500) Maintenance, Licences and Equipment Purchases

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab

(U) B. PROGRAM CHANGE SUMMARY:

	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>
(U) FY 2002 President's Budget:		2.300	
(U) Adjustments from the FY 2002 President's Budget:		0.000	
(U) FY 2003 President's Budget Submit:		2.300	1.690

(U) C. CHANGE SUMMARY EXPLANATION:

(U) Funding: N/A

(U) Schedule: The JTC/SIL schedule is determined by a MUSE User's Working Group which meets semi-annually to determine recommended development priorities and is approved by a Council of Colonels with representation from each Service and JFCOM with oversight by OASD C3I and USD AT&L.

(U) Technical: N/A

(U) C. OTHER PROGRAM FUNDING SUMMARY: N/A

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification			DATE:	
			February 2002	
APPROPRIATION/BUDGET ACTIVITY	PROGRAM ELEMENT NUMBER AND NAME	PROJECT NUMBER AND NAME		
RDT&E, N / BA-7	0305204N Tactical Unmanned Aerial Vehicles	A2910 Joint Technology Center/Systems Integration Lab		
<p>(U) D. ACQUISITION STRATEGY: The JTC/SIL assists ISR system Program Managers with expertise in systems engineering, prototyping, training, and warfighter support. This joint facility provides a cost-effective test-bed for UAV and ISR technology assessment, insertion, demonstration, and transfer, as well as simulation and exercise support. It creates a realistic operational environment which supports: an embedded training capability for multiple Program Managers; tools to minimize acquisition and life cycle costs and schedule impacts; a mechanism for the assessment of military utility; architecture, CONOPS, and TTP development and refinement; the ability to conduct emerging concepts experimentation, future systems exploration, systems integration, and technology insertion; applications for Joint and Service specific warfighting exercises; and C4I Optimization.</p>				
		<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>
		1 2 3 4	1 2 3 4	1 2 3 4
***(U) Program Milestones				<u>TO COMPLETE</u>
User's Working Group			Initiate 2Q/02 Complete 4Q/02	
Council of Colonels			Initiate 2Q/02 Complete 4Q/02	
(U) Engineering Milestones				
AVSI TCS BL I Update			Complete 2Q/02	
AVSI TCS BL II Update			Complete 2Q/02	
Development Advanced Tactical Aerial Reconnaissance System simulation			Complete 4Q/02	
P3 Flight Model			Complete 4Q/02	
VTUAV Flight Model			Complete 4Q/02	
Integrate JSIPS-N			Complete 4Q/02	
National Space Assets Enhancements			Complete 4Q/02	
Obscurants				Complete 4Q/03
Automatic Target Recognition				Complete 4Q/03
CDL Emulator				Complete 4Q/03
Diurnal Effects				Complete 4Q/03
Fixed Target Damage				Complete 4Q/03
Laser Designator				Complete 4Q/03
Enhanced Terrain Data Base				Complete 4Q/03
C4I Enhancement				Complete 4Q/03
(U) T&E Milstones	N/A			

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT				PROJECT NUMBER AND NAME					
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles				A2910 Joint Technology Center/Systems Integration Lab					
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
MUSE Development	MIPR	Redstone Arsenal, AL				1.033	11/01	0.823	11/02	Continuing	Continuing	Continuing
Award Fees												
Subtotal Product Development						1.033		0.823		Continuing	Continuing	Continuing
Remarks:												
Development equipment purchases	MIPR	Redstone Arsenal, AL				0.900	11/01	0.500	11/02	Continuing	Continuing	Continuing
Subtotal Support						0.900		0.500		Continuing	Continuing	Continuing
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

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Exhibit R-3 Cost Analysis (page 2)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A2910 Joint Technology Center/Systems Integration Lab						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Subtotal T&E												
Remarks:												
Laboratory Sustainment	MIPR	Redstone Arsenal, AL				0.367	11/01	0.367	11/02		0.734	
Subtotal Management						0.367		0.367			0.734	
Remarks:												
Total Cost						2.300		1.690		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE:				
		February 2002										
APPROPRIATION/BUDGET ACTIVITY		PROGRAM ELEMENT NUMBER AND NAME					PROJECT NUMBER AND NAME					
RDT&E, N / BA-7		0305204N Tactical Unmanned Aerial Vehicles					A3061 BAMS UAV					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program	
A3061 BAMS UAV					152.000	130.697	133.355	79.292	39.583	Continuing	Continuing	
Non-Add:												
FY 2003 Cost of War: BAMS UAV (Classified)					28.300	14.300	26.700	40.000	48.000			
RDT&E Articles Qty (EDU)					2							
U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:												
The Broad Area Maritime Surveillance (BAMS) UAV will provide users global coverage through persistent long range surveillance.The acquisition of a Global Hawk system is critical in the development of a Long-Dwell Standoff ISR capability for the Naval Service. The initial system will be used for experimentation towards answering the BAMS UAV requirement. Concepts of Operation (CONOPS) will explore wide area surveillance of maritime and land targets, stand off strike support, Signal Intelligence (SIGINT) collection and communication relay capabilities. This effort provides for RDT&E,N funds to cover phase 1 of the program. The Navy will utilize the existing Air Force contract to purchase Global Hawk and developmental assets outfitted with maritime mission oriented sensors.												
U) B. PROGRAM ACCOMPLISHMENTS AND PLANS:												
1. FY 2003 PLANS:												
-(U) (\$ 152.000) Initiate acquisition of one marinized Global Hawk system, and initial spares. Marinized Global Hawk system consists of 2 Air Vehicles, 1 MCE, and 2LREs. Start maritime payload development.												
Non-Add:												
Cost of War-\$28.3M in FY 2003 for classified effort associated with BAMS UAV.												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-2a, RDTEN Project Justification
(Exhibit R-2a, page 26 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																																					
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A3061 BAMS UAV																																					
<p>(U) B. PROGRAM CHANGE SUMMARY:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY2001</u></th> <th style="text-align: center;"><u>FY2002</u></th> <th style="text-align: center;"><u>FY2003</u></th> </tr> </thead> <tbody> <tr> <td>(U) FY 2002 President's Budget:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) Adjustments from the FY 2002 President's Budget:</td> <td></td> <td></td> <td></td> </tr> <tr> <td>(U) FY 2003 President's Budget Submit:</td> <td></td> <td></td> <td style="text-align: right;">152.000</td> </tr> </tbody> </table> <p>C. CHANGE SUMMARY EXPLANATION:</p> <p style="margin-left: 40px;">(U) Funding: N/A</p> <p style="margin-left: 40px;">(U) Schedule: NA</p> <p style="margin-left: 40px;">(U) Technical: N/A</p> <p style="margin-left: 40px;">(U) C. OTHER PROGRAM FUNDING SUMMARY:</p> <table style="width: 100%; border: none;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>FY 02</u></th> <th style="text-align: center;"><u>FY 03</u></th> <th style="text-align: center;"><u>FY 04</u></th> <th style="text-align: center;"><u>FY 05</u></th> <th style="text-align: center;"><u>FY 06</u></th> <th style="text-align: center;"><u>FY 07</u></th> </tr> </thead> <tbody> <tr> <td>RDTE,N 0605500N Multi-Mission Maritime A/C</td> <td style="text-align: right;">53.329</td> <td style="text-align: right;">74.531</td> <td style="text-align: right;">218.861</td> <td style="text-align: right;">198.566</td> <td style="text-align: right;">437.913</td> <td style="text-align: right;">405.369</td> </tr> <tr> <td>APN 019300 Multi-Mission Maritime A/C</td> <td></td> <td></td> <td></td> <td></td> <td style="text-align: right;">19.672</td> <td style="text-align: right;">138.496</td> </tr> </tbody> </table>				<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>	(U) FY 2002 President's Budget:				(U) Adjustments from the FY 2002 President's Budget:				(U) FY 2003 President's Budget Submit:			152.000		<u>FY 02</u>	<u>FY 03</u>	<u>FY 04</u>	<u>FY 05</u>	<u>FY 06</u>	<u>FY 07</u>	RDTE,N 0605500N Multi-Mission Maritime A/C	53.329	74.531	218.861	198.566	437.913	405.369	APN 019300 Multi-Mission Maritime A/C					19.672	138.496
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R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification		DATE: February 2002																									
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A3061 BAMS UAV																									
<p>(U) D. ACQUISITION STRATEGY: Begin development of full system in FY03. Full system will be bought from Air Force under existing Global Hawk contract. Delivery of system will be in FY05.</p> <p>E. SCHEDULE PROFILE:</p> <table> <thead> <tr> <th></th> <th><u>FY 2001</u></th> <th><u>FY 2002</u></th> <th><u>FY 2003</u></th> <th><u>TO COMPLETE</u></th> </tr> </thead> <tbody> <tr> <td>(U) Contract Milestones</td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Initial Delivery Order</td> <td></td> <td></td> <td>Initiate 1Q</td> <td></td> </tr> <tr> <td>Payload PDR</td> <td></td> <td></td> <td>Initiate 2Q</td> <td></td> </tr> <tr> <td>Payload CDR</td> <td></td> <td></td> <td>Initiate 4Q</td> <td></td> </tr> </tbody> </table> <p>R-1 SHOPPING LIST - Item No. 208</p>				<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>	(U) Contract Milestones					Initial Delivery Order			Initiate 1Q		Payload PDR			Initiate 2Q		Payload CDR			Initiate 4Q	
	<u>FY 2001</u>	<u>FY 2002</u>	<u>FY 2003</u>	<u>TO COMPLETE</u>																							
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CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 1)								DATE: February 2002				
APPROPRIATION/BUDGET ACTIVITY			PROGRAM ELEMENT			PROJECT NUMBER AND NAME						
RDT&E, N / BA-7			0305204N Tactical Unmanned Aerial Vehicles			A3061 BAMS UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Marinized Global Hawk Develop.	MIPR	USAF						139.400	10/02	Continuing	Continuing	
Award Fees												
Subtotal Product Development						0.000		139.400		Continuing	Continuing	
Remarks:												
Systems Engineering	WX	NAWC-AD, Pax River, MD						3.800	Various	Continuing	Continuing	
Logistics Support	WX	Various						5.500	Various	Continuing	Continuing	
Subtotal Support								9.300		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A3061 BAMS UAV						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
Developmental Tes & Evaluation	WR	NAWC-AD, Pax River,MD						1.400	10/02			
Subtotal T&E								1.400				
Remarks:												
Contractor Engineering Support	C/FFP							0.400	10/02		0.400	
Proigram Management	WX	NAWC-AD, Pax River,MD						1.500	10/02			
Subtotal Management								1.900			1.900	
Remarks:												
Total Cost								152.000		Continuing	Continuing	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

Exhibit R-3, RDTE Project Cost Analysis
(Exhibit R-3, page 30 of 35)

UNCLASSIFIED

CLASSIFICATION:

EXHIBIT R-2a, RDT&E Project Justification								DATE: February 2002			
APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7		PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles				PROJECT NUMBER AND NAME A9113 VTOL UAV MPR STUDY					
COST (\$ in Millions)	Prior Year Cost		FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Cost to Complete	Total Program
A9113 VTOL UAV MPR STUDY				4.956							4.956
RDT&E Articles Qty (EDU)											
<p>(U) A. MISSION DESCRIPTION AND BUDGET ITEM JUSTIFICATION:</p> <p>Congressional plus up for development of a prototype Maritime Patrol and Reconnaissance (MPR) mission with advanced surveillance sensor equipment on a Global Hawk for experimentation and for examining concepts of operation for use in conjunction with other MPR assets</p> <p>(U) B. PROGRAM ACCOMPLISHMENTS AND PLANS:</p> <p>1. FY 2002 PLAN:</p> <p>- (U) (\$4.956) Begin study of: MPR mission; validity of Broad Area Maritime Surveillance (BAMS) approach for MPR; initial concept of operations for use of an HAE UAV; and future year plans for continued development of the UAV approach for MPR. Report to Congress will be produced in accordance with congressional language.</p>											

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

UNCLASSIFIED

CLASSIFICATION:

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	<u>FY2001</u>	<u>FY2002</u>	<u>FY2003</u>															
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R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

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APPROPRIATION/BUDGET ACTIVITY RDT&E, N / BA-7	PROGRAM ELEMENT NUMBER AND NAME 0305204N Tactical Unmanned Aerial Vehicles	PROJECT NUMBER AND NAME A9113 VTOL UAV MPR STUDY
<p>(U) D. ACQUISITION STRATEGY: N/A</p> <p>R-1 SHOPPING LIST - Item No. 208</p>		

UNCLASSIFIED

February 2002

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED

CLASSIFICATION:

Exhibit R-3 Cost Analysis (page 2)										DATE: February 2002		
APPROPRIATION/BUDGET ACTIVITY RDTE, N / BA-7			PROGRAM ELEMENT 0305204N Tactical Unmanned Aerial Vehicles			PROJECT NUMBER AND NAME A9113 VTOL UAV MPR STUDY						
Cost Categories	Contract Method & Type	Performing Activity & Location	Total PY s Cost	FY 01 Cost	FY 01 Award Date	FY 02 Cost	FY 02 Award Date	FY 03 Cost	FY 03 Award Date	Cost to Complete	Total Cost	Target Value of Contract
	WX											
Subtotal T&E												
Remarks:												
Program Management	WX	NAWC-AD Pax River, MD				1.000	04/02				1.000	
Subtotal Management						1.000					1.000	
Remarks:												
Total Cost						3.000					3.000	
Remarks:												

R-1 SHOPPING LIST - Item No. 208

UNCLASSIFIED